

Notice of Allowability

Application No.

10/050,862

Applicant(s)

UGAI ET AL.

Examiner

Belix M. Ortiz

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/09/2004.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 18 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 11/19/2004.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



**CHARLES RONES
PRIMARY EXAMINER**

DETAILED ACTION

EXAMINER'S AMENDMENT

1. The following is an Examiner's statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose, make obvious, or otherwise suggest the structure of the applicant's prediction program, prediction apparatus, and prediction method together with the other limitations of the independent claims.

The dependent claims being further limiting and definite are also allowable. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Authorization for this examiner's amendment was given in an interview with Temnit Afework on November 19, 2004.

AMENDMENT TO THE CLAIMS:

Claims 1, 10, and 13 have been amended. Claim 16 has been cancel.
Claims 1-15 remain pending in the application.

WHAT IS CLAIMED IS:

1. (Previously amended) an information use frequency prediction program which causes a computer to function as:

a temporal operation unit which sequentially performs temporal operations in a unit of predetermined times, the temporal operations being performed with respect to a relative relation between a first pattern of a first

data including use frequency based on first time series information that represents a temporal change of the use frequency of the first time series information of the first data, and a second pattern of a second data including use frequency of second time series information that represents a temporal change of the use frequency of the second time series information based on the second data;

a correlation coefficient calculation unit which calculates a correlation coefficient between the first time series information and the second time series information for each unit of the predetermined times based on the relative relation between the first and second patterns;

a pair specifying unit which specifies a pair of the first time series information and the second time series information, corresponding to the correlation coefficient having the highest value, of a plurality of correlation coefficients calculated by the correlation coefficient calculation unit; and

a prediction unit which predicts additional data of the use frequency of the first time series information constituting the pair based on the second pattern corresponding to the pair, and

wherein a time corresponding to each data contained in the first data is different from a time corresponding to the additional data.

2. (ORIGINAL) The information use frequency prediction program according to claim 1, wherein the temporal operation unit performs the temporal operation, with regard to all combinations of a plurality of first time series information belonging to a first group, and a plurality of second time series information belonging to a second group.

3. (ORIGINAL) the information use frequency prediction program according to claim 2, which causes a computer to function as sod unit which sorts a plurality of prediction results in the prediction unit, by using the use frequency as a key.

4. (ORIGINAL) the information use frequency prediction program according to claim 1, wherein the temporal operation unit shifts the second time series information, sequentially on the time base in a unit of the predetermined time, based on the first time series information.

5. (ORIGINAL) the information use frequency prediction program according to claim 1, wherein the temporal operation unit expands or contracts the second time series information time wise, sequentially, in a unit of predetermined expansion and contraction, based on the first time series information.

6. (ORIGINAL) the information use frequency prediction program according to claim 1, wherein the temporal operation unit shifts the second time series information, sequentially on the time base in a unit of the predetermined time, and expands and contracts the shifted second time series information time wise, sequentially, in a unit of predetermined expansion and contraction, based on the first time series information.

7. (ORIGINAL) the information use frequency prediction program according to claim 1, wherein the first time series information and the second time series information are time series information of use frequency of keywords in a keyword search engine on the Internet.

8. (ORIGINAL) the information use frequency prediction program according to claim 1, wherein the first time series information and the second time series information are collected via different collection routes.

9. (ORIGINAL) the information use frequency prediction program according to claim 1, wherein the first time series information and the second time series information are collected via the same collection route, and the collected time series information is grouped into two.

10. (Previously amended) an information use frequency prediction apparatus, comprising:

a temporal operation unit which sequentially performs temporal operations in a unit of predetermined times, the temporal operations being performed with respect to a relative relation between a first pattern of a first data including use frequency based on first time series information that represents a temporal change of the use frequency of the first time series information of the first data, and a second pattern of a second data including use frequency of second time series information that represents a temporal change of the use frequency of the second time series information based on the second data;

a correlation coefficient calculation unit which calculates a correlation coefficient between the first time series information and the second time series information for each unit of the predetermined times based on the relative relation between the first and second patterns;

a pair specifying unit which specifies a pair of the first time series information and the second time series information, corresponding to the correlation coefficient having the highest value, of a plurality of correlation coefficients calculated by the correlation coefficient calculation unit; and

a prediction unit which predicts additional data of the use frequency of the first time series information constituting the pair based on the second pattern corresponding to the pair, and

wherein a time corresponding to each data contained in the first data is different from a time corresponding to the additional data.

11. (ORIGINAL) The information use frequency prediction apparatus according to claim 10, wherein the temporal operation unit shifts the second time series information on the time base, sequentially, in a unit of predetermined time, based on the first time series information.

12. (ORIGINAL) The information use frequency prediction apparatus according to claim 1.0, wherein the temporal operation unit expands or contracts the second time series information time wise, sequentially, in a unit of predetermined expansion and contraction, based on the first time series information.

13. (Previously amended) an information use frequency prediction method, comprising:

sequentially performs temporal operations in a unit of predetermined times, the temporal operations being performed with respect to a relative relation between a first pattern of a first data including use frequency based on first time series information that represents a temporal change of the use frequency of the first time series information of the first data, and a second pattern of a second data including use frequency of second time series

Art Unit: 2164

information that represents a temporal change of the use frequency of the second time series information based on the second data;

calculation unit which calculates a correlation coefficient between the first time series information and the second time series information for each unit of the predetermined times based on the relative relation between the first and second patterns;

specifies a pair of the first time series information and the second time series information, corresponding to the correlation coefficient having the highest value, of a plurality of correlation coefficients calculated by the correlation coefficient calculation unit; and

predicts additional data of the use frequency of the first time series information constituting the pair based on the second pattern corresponding to the pair, and

wherein a time corresponding to each data contained in the first data is different from a time corresponding to the additional data.

14. (ORIGINAL) The information use frequency prediction method according to claim 13, wherein in the temporal operation step, the second time series information is shifted on the time base, sequentially, in a unit of predetermined time, based on the first time series information.

15. (ORIGINAL) The information use frequency prediction method according to claim 13, wherein in the temporal operation step, the second time series information is expanded or contracted time wise, sequentially, in a unit of predetermined expansion and contraction, based on the first time series information.

Reasons for Allowance

2. Claims 1-15 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter: the prior arts of records, neither anticipates nor renders obvious the following limitations as claimed:

As to claim 1, the prior art of records fail to anticipate or suggest an information use frequency prediction program which causes a computer to function as:

a temporal operation unit which sequentially performs temporal operations in a unit of predetermined times, the temporal operations being performed with respect to a relative relation between a first pattern of a first data including use frequency based on first time series information that represents a temporal change of the use frequency of the first time series information of the first data, and a second pattern of a second data including use frequency of second time series information that represents a temporal

change of the use frequency of the second time series information based on the second data;

a correlation coefficient calculation unit which calculates a correlation coefficient between the first time series information and the second time series information for each unit of the predetermined times based on the relative relation between the first and second patterns;

a pair specifying unit which specifies a pair of the first time series information and the second time series information, corresponding to the correlation coefficient having the highest value, of a plurality of correlation coefficients calculated by the correlation coefficient calculation unit; and

a prediction unit which predicts additional data of the use frequency of the first time series information constituting the pair based on the second pattern corresponding to the pair, and

wherein a time corresponding to each data contained in the first data is different from a time corresponding to the additional data, together with the other limitations of the dependent claims.

As to claim 10, the prior art of records fail to anticipate or suggest an information use frequency prediction apparatus, comprising:

a temporal operation unit which sequentially performs temporal operations in a unit of predetermined times, the temporal operations being performed with respect to a relative relation between a first pattern of a first

Art Unit: 2164

data including use frequency based on first time series information that represents a temporal change of the use frequency of the first time series information of the first data, and a second pattern of a second data including use frequency of second time series information that represents a temporal change of the use frequency of the second time series information based on the second data;

a correlation coefficient calculation unit which calculates a correlation coefficient between the first time series information and the second time series information for each unit of the predetermined times based on the relative relation between the first and second patterns;

a pair specifying unit which specifies a pair of the first time series information and the second time series information, corresponding to the correlation coefficient having the highest value, of a plurality of correlation coefficients calculated by the correlation coefficient calculation unit; and

a prediction unit which predicts additional data of the use frequency of the first time series information constituting the pair based on the second pattern corresponding to the pair, and

wherein a time corresponding to each data contained in the first data is different from a time corresponding to the additional data, together with the other limitations of the dependent claims.

As to claim 13, the prior art of records fail to anticipate or suggest an

information use frequency prediction method, comprising:

sequentially performs temporal operations in a unit of predetermined times, the temporal operations being performed with respect to a relative relation between a first pattern of a first data including use frequency based on first time series information that represents a temporal change of the use frequency of the first time series information of the first data, and a second pattern of a second data including use frequency of second time series information that represents a temporal change of the use frequency of the second time series information based on the second data;

calculation unit which calculates a correlation coefficient between the first time series information and the second time series information for each unit of the predetermined times based on the relative relation between the first and second patterns;

specifies a pair of the first time series information and the second time series information, corresponding to the correlation coefficient having the highest value, of a plurality of correlation coefficients calculated by the correlation coefficient calculation unit; and

predicts additional data of the use frequency of the first time series information constituting the pair based on the second pattern corresponding to the pair, and

wherein a time corresponding to each data contained in the first data is

different from a time corresponding to the additional data, together with the other limitations of the dependent claims.

Conclusion


4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Belix M. Ortiz whose telephone number is (571)-272-4081. The examiner can normally be reached on Monday-Friday 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on (571)- 272-4083. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bmo

December 6, 2004


CHARLES RONES
PRIMARY EXAMINER